

Giving the Green Light to Green Building

NJHMFA Tax Credit Workshop and Syndication Marketplace
February 25, 2005
Trenton, NJ



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Giving the Green Light to Green Building

NJDCA Green Homes Office

NJHMFA Tax Credit Workshop and Syndication Marketplace 2005

NJDCA Green Homes Office

- Fundamentally Improve Housing In NJ
 - Raise Building Standards
 - Create a Consumer Demand
- Accelerate the use of Green Design and High Performance Green Building Technologies



NJDCA Green Homes Office

Major Initiatives

New Jersey Affordable Green

- Tech Assistance, Training
- \$7500 Per Unit for Green/Energy

Camden Microload Pilot

- 20-25 units green/renewables

New Jersey High Performance Homes for market and production builders

- Technical Assistance
- Rating System
- Marketing Campaign
- Awards and Recognition

New Jersey HERS Alliance

- State Standard for Energy Rating
- Quality Assurance
- Provider Services
- Energy Mortgages



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What Is Green Development & Building Design?

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“The act of bringing out the capabilities or possibilities of something to a more advanced or effective state.”

Oxford English Dictionary

WHAT IS GREEN BUILDING DESIGN?

**Design and Construction practices
that significantly **reduce or eliminate**
the negative impact of buildings
on the environment and occupants.**

United States Green Building Council

Economic Benefits from Green Building

- Reduced Operating Costs
- Optimize Life Cycle Economic Performance
 - Enhance Asset Value & Increase Profits
 - Valuation Premiums
 - Reduced Liability
 - Marketing Opportunities
- Streamlined Regulatory Approvals & Staying Ahead of Regulations

What you need is to have every dollar you spend -- on materials, energy, labor -- add value for both customers and shareholders rather than go out the door -- or down the drain -- as product you make but can't sell. - William Reed

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We know today's best green building practices!

Healthy, Resource and Energy Efficient Buildings
Onsite Renewable Energy Generation



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We now must integrate these practices into the construction and planning of projects to revitalize the inner city and reform the suburbs within an integrated regional structure

Neighborhoods that are **diverse in use and population**



Communities **scaled for pedestrian use**, providing alternative transportation, minimizing the use of automobiles, auto infrastructure and auto prominence



Places physically defined by **universally accessible** public parks and community institutions

Distinct communities **retaining the culture and context** of the existing community,

Architecture and landscape design that **celebrates local** history, climate, ecology and building practice



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New Jersey Affordable Green

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New Jersey Affordable Green

Training

Technical Assistance

\$7500.00 Per Unit for Green/Energy

Available with NJDCA Balanced Housing

HMFA Home Express

HOME Funds

Administered by NJGHO



New Jersey Affordable Green Tool Kit

Developer Guide

Goals and Objectives

Energy Star Requirements

Developer Certification

Green Feature Cost Matrix

Tracking Tools

Fuel Bill Release Form

Green Feature Cost Matrix

Site and Land Use

Indoor Air Quality

Energy Efficiency

Resource Efficiency

Operations and Maintenance

Requirements In Each Section

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Indoor Air Quality

	Remediation					
IA-1	<i>Remediate mold and mildew before remodeling</i>			1	\$ -	\$ -
IA-2	<i>Abate for asbestos and lead before remodeling</i>			1	\$ -	\$ -
						\$ -
	Construction Air Quality Management					\$ -
IA-3	<i>Ducts and HVAC protected from dust during construction</i>			1	\$ -	\$ -
IA-4	Ducts cleaned after construction [b]			1		\$ -
IA-5	Air out the building prior to occupancy			1		\$ -
IA-6	Protect occupied areas during construction from dust & fumes [c]			1		\$ -
						\$ -
	Materials and Product Choices					\$ -
IA-7	<i>All combustion devices power vented or sealed combustion</i>			1	\$ -	\$ -
IA-8	<i>Low VOC paint for interior finishes</i>		gallons	10	\$ -	\$ -
IA-9	<i>Encapsulation of non-UF-free particle board in cabinets [d]</i>			1	\$ -	\$ -
IA-10	<i>Carpet and Rug Institute's Green Label-Plus, low pile carpets</i>		sq. yds.	30	\$ -	\$ -
IA-11	Hardwood floors to replace carpet			1	\$ -	\$ -
IA-12	Durable kitchen, bath and entry flooring such as tile or linoleum					
IA-13	Low VOC for all sealants and adhesives		tubes	8	\$ -	\$ -
IA-14	Melamine or otherwise encapsulated particleboard for cabinetry			1	\$ -	\$ -
IA-15	Urea-formaldehyde free underlayment, cabinets, and storage units			1	\$ -	\$ -
IA-16	Solvent-free carpet adhesives		gallons	1	\$ -	\$ -
IA-17	Tack down carpet instead of glue-down		sq. yds.	1	\$ -	\$ -
IA-18	ABS plastic instead of PVC, where plastic is required		feet of pip	20	\$ -	\$ -
IA-19	Walk-off mats at entranceways	carpet	sq. ft.	500	\$ -	\$ -
IA-20	Urea-formaldede-free fiberglass insulation					\$ -
						\$ -
	Ventilation and Moisture Management					\$ -
IA-21	<i>Automatic ventilation to each unit [e]</i>			1	\$ -	\$ -
IA-22	<i>Under-slab vapor barriers</i>			1	\$ -	\$ -
IA-23	Automatic ventilation to each occupied room			1	\$ -	\$ -
IA-24	Exhaust from kitchen, baths, and laundry			1	\$ -	\$ -
IA-25	Medium-efficiency (or higher) air filters in ducted forced air systems			1	\$ -	\$ -
						\$ -

New Jersey Affordable Green

NJAG funds are **NOT to be included in the project construction budget!**

Final Green Cost Matrix must be approved by NJGHO prior to signing loan or grant agreements!

NJAG must **receive and approve the preliminary Energy Star rating for the project!**

New Jersey Affordable Green

27 Projects

13 Municipalities

12 Developers

1384 Units - All NJ Energy Star

476 Complete

245 Under Construction

663 Under Contract

1,103,598 sq ft living area

\$10,580,000 in Green High Performance Features

\$40,000,000 State/Federal Funding

\$160,000,000 Private Funding

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GREEN BUILDING DESIGN CASE STUDY

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Case Study:

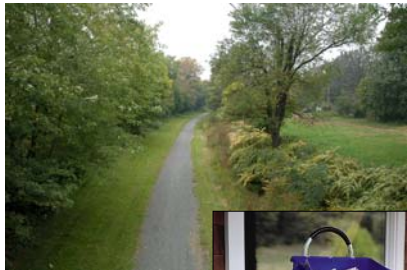
Bellevue Court Microload Homes

Trenton, NJ

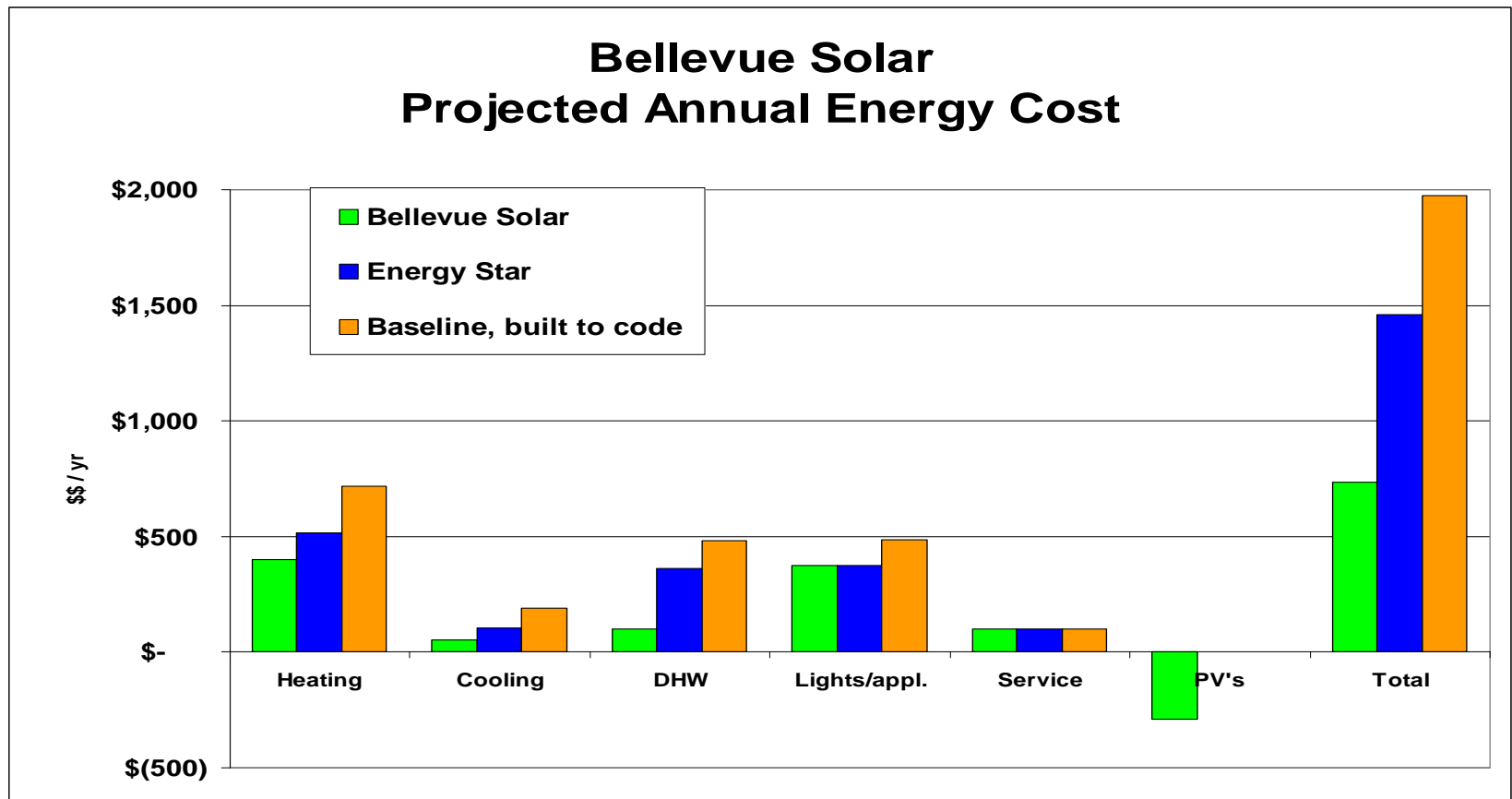
New Jersey's first urban, rehab, microload, affordable (low-to-mod income) homes, Considered to be a national show case of green technologies and design. Two units of 22 green high performance homes.



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Annual Energy Cost:
Baseline, Built to NJ Code (95 CABO MEC) \$1975.00
Energy Star \$1458.00
Bellevue Solar \$736.00

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NJ Energy Programs

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Energy Star for Affordable Housing

Energy Star Positively Impacts Operating Costs

Provides Better Design and Better Quality Housing

Changes Public Perception of Affordable Housing

**Set a Cohesive Standard among State Agencies
(HMFA, DCA, BPU)**

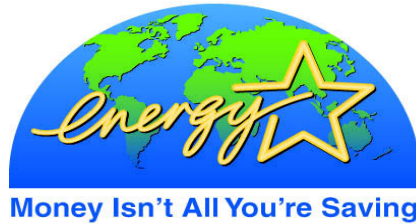
**Clear Expectation Among Partners
(CDC, For/Non-Profits)**

Avenue to explore Green Building

Opportunity to Change Energy Use Habits

Certification REQUIRED

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New Jersey
ENERGY STAR® Homes
njenergystarhomes.com

Core Program Incentives

	2004	2005 Changes
Maximum Core Incentive	\$3100	\$2900
Single Family	\$700 + \$.60/sq. ft.	\$500 + \$.60/sq. ft.
Multiple Single Family ("Townhouse")	\$200 + \$.60/sq. ft.	\$150 + \$.60/sq. ft.
Multiple-Family Building ("Multi-Family")	\$50 per dwelling unit + \$.60/sq. ft.	\$.60/sq. ft.

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New Jersey
ENERGY STAR® Homes

njenergystarhomes.com

HVAC Equipment Incentives

Equipment Type	Efficiency Standard	2004	2005
Gas Boiler	E* 85% AFUE	\$300/unit	Unchanged
Gas Furnace	E* 90% AFUE	\$300/unit	Unchanged
Central A/C	13 SEER	\$300/unit	\$200/unit
Central A/C	14 SEER	\$500/unit	\$400/unit
Heat Pump	13 SEER/8.0 HSPF	\$400	\$300/unit
Heat Pump	14 SEER/8.5 HSPF	\$650	\$550/unit
Ground Source Heat Pump	13 EER	\$580/ton	Unchanged



**New Jersey
ENERGY STAR® Homes**
njenergystarhomes.com

Required Energy Efficient Measures

Equipment Type	Efficiency Standard	
Light Fixtures	ENERGY STAR fixtures in high-use locations (excludes closets, garages, unfinished basements or other locations where lights are typically on for less than 2 hours/day)	Minimum of three fixtures \$30 ea. for recessed fixtures \$20 ea. for all others
Mechanical Ventilation System	Ducted fan (maximum .5 Watts/cfm and 2.0 sones) on automatic control Maximum of one system per 1,000 sq.ft. of dwelling space	



New Jersey
ENERGY STAR® Homes
njenergystarhomes.com

NJ ENERGY STAR AFFORDABLE HOMES

Certified 3200

In Construction 1200

Energy Star Homes Nationally	1995-Present	330,000
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Energy Star Homes New Jersey	1998-Present	14,000
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Active/Outstanding	20,000
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Solar Electric Installation Financial Incentives

Systems up to 10KW.....\$5.50/watt

Up to **70%** rebate of system costs



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Financing Affordable Green

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Financing Affordable Green

Enterprise Foundation – Green Communities

\$550 million over next five years

www.enterprisefoundation.org

Home Depot Foundation

www.homedepotfoundation.org

Kresge Foundation

www.kresge.org

Federal Home Loan Bank of Pittsburgh

www.fhlp-pgh.com

United Technologies Corp./ Sustainable Cities Program

www.utc.com

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Green Resources

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New Jersey Resources

NJDCA

NJDCA Office of Smart Growth

NJDCA Green Homes Office

Council on Affordable Housing

Housing Mortgage Finance Agency

New Jersey Redevelopment Authority

NJ Department of Environmental Protection

NJ Economic Development Authority

NJ Commerce and Economic Growth Comm.

New Jersey Clean Energy Program

New Jersey Chapter USGBC

NJ Million Solar Roofs

New Jersey Energy Star Homes Program

www.nj.gov/dca

www.nj.gov/dca/osg

www.nj.gov/dca/dhcr/njgreenhomes.htm

www.nj.gov/dca/coah

www.nj.gov/dca/hmfa

www.nj.gov/njra

www.nj.gov/dep

www.njeda.com

www.newjerseycommerce.org

www.njcep.com

www.usgbc.org

www.newjerseysolar.millionsolarroofs.org

www.njenergystarhomes.com



Federal Resources

DOE Rebuild Program

Goal to achieve economic and environmental benefits through the promotion of energy and water saving projects.

DOE Million Solar Roofs Program

Goal to put solar on one million roofs by 2010

DOE Building America Program

Works with members of the home building industry to produce homes that use up to 50% less energy without costing more

EPA Energy Star Homes

Government-industry partnership to increase energy efficiency

HUD Partnership for Advancing Technology in Housing (PATH)

Government-industry partnership to develop energy resource efficient affordable housing

Green Building, Energy and Development Resources

-Environmental Building News	www.buildinggreen.com
-US Green Building Council	www.usgbc.org
-National Association of Home Builders	www.nahb.com
-US Department of Energy Rebuild	www.eren.doe.gov
-Green Building Alliance	www.gbapgh.org
-Rocky Mountain Institute	www.rmi.org
-Sustainable Building Industry Council	www.sbicouncil.org
-National Center for Appropriate Tech	www.ncat.org/reh
-Development Center for Appropriate Tech	www.dcat.org
-Global Green USA	www.globalgreen.org

New Jersey Green Homes Office

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Robert Wisniewski, State Programs Coordinator

State of New Jersey

New Jersey Department of Community Affairs

Division of Housing and Community Resources

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United States Green Building Council

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